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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,774	10/13/2000	Akio Katsube	018976-181	8104

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EXAMINER
COMPTON, ERIC B

ART UNIT	PAPER NUMBER
3726	11

DATE MAILED: 04/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/689,774	KATSUBE ET AL.
	Examiner	Art Unit
	Eric B. Compton	3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) *1-4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *12 March 2003* is: a)☒ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *8.5* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 10-11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: how the holding jig is used in conjunction with the elastic material.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 5 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 62-244142 to Tatsufumi et al (MATSUSHITA).

Regarding claim 5, Tatsufumi et al disclose a method for manufacturing electronic components, comprising: holding a substrate (6) on the surface of an elastic material an ansiotropic conductive adhesive layer (4) in which powdered bodies having conductivity and ***rubber elasticity*** are dispersed to a bonding agent consisting of a synthetic resin by the strength of the surface; and mounting and electrically connecting

an element (9) on the substrate while surface is held on the surface of the elastic material.

5. Claims 7, 10, 11, 12, 15, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 07-022795 to Kazuhiko et al (SHIN ESTU CHEM CO).

Regarding claim 7, Kazuhiko et al disclose a method for manufacturing electronic components, comprising: holding a substrate (3) on a surface of an elastic material (1), in which at least the surface of the elastic material is adhesive and conductive, by the strength of the surface; and mounting and electrically connecting an element (see section [0020] of the machine translation]) on the substrate while surface is held on the surface of the elastic material.

Regarding claim 10, Applicant discloses a silicone rubber composition and that these compositions are stable at 250 °C. Therefore, it is inherent that this composition is stable at this temperature also.

Regarding claim 11, the step of holding is carried out using a jig having a laminate structure comprising: a hard material (2) and the elastic material (1).

Regarding claims 12 and 15, the elastic material is an adhesive silicone rubber layer.

Regarding claim 16, the elastic material can be considered a laminating layer, since it bonds the hard material plate (2) to the substrate (3).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 6, 9, and 10, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazuhiko et al in view of US patent 4,098,945 to Oehmke.

Kazuhiko et al disclose the invention cited above. However, they do not disclose that the elastic material is conductive or having a harness of at least A30.

Oehmke discloses a conductive adhesive elastic material comprising an elastic binder for "peelable adhesive fastening of metallic materials without interruption of the electrical conductive pathways between them" (col. 7, lines 62-64). It is disclosed that the conductive material may preferably comprise silicone rubber (see col. 6, lines 38-43). Furthermore, it is noted that the "binder should be capable of providing a soft composition having a Shore A hardness of less than about 40" (col 6., lines 34-36). It is also pointed out that a Shore A harness of greater than 40 is too hard for most applications (cols. 1-2, lines 66-1).

Regarding claim 6, it would have been obvious to one having ordinary skill in the art at the time of invention, to have provided the elastic of Kazuhiko with conductive particles, in light of the teachings of Oehmke, in order to provide a conductive interface between two already conductive bodies (col. 1, lines 28-31), such as between a closed circuit to a ground plate (col. 7, line 66).

Regarding claim 9, it would have been obvious to one having ordinary skill in the art at the time of invention, to have provided the elastic of Kazuhiko with a rubber having a hardness of at least A30, in light of the teachings of Oehmke, in order to provide an adhesive having a requisite conformability, moldability, and flexibility (col 2, lines 21+).

Regarding claim 10, both Applicant and Oehmke disclose a silicone rubber composition. Applicant notes these composition are stable at 250 °C. Therefore, it is inherent that this composition is stable at this temperature also.

8. Claims 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kazuhiko et al in view of Applicant's Admitted Prior Art (AAPA).

Kazuhiko et al disclose the invention cited above. However, they do not specifically disclose how the electronic components are mounted on the substrate.

AAPA notes as on prior art on page 1, lines 22+, of the specification that wire bonding is a known bonding technique using an automated process.

Regarding claim 13, it would have been obvious to one of ordinary skill in the art to manufacture the electronic component of Kazuhiko et al by a wire bonding process, in light of the teachings of AAPA, in order to manufacture electronic components using conventional bonding apparatus known in the art.

9. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazuhiko et al in view of JP 11-045912 to MATSUSHITA.

Kazuhiko et al disclose the invention cited above. However, they do not specifically disclose how the electronic components are mounted on the substrate.

Matsushita discloses a method an apparatus for bonding electronic components to substrate. The electronic components are bump bonded to the substrate using ultrasonic waves. The process allows the component to be conductively bonding very firmly (Derwent English Abstract).

Regarding claims 8 and 14, it would have been obvious to one of ordinary skill in the art to manufacture the electronic component of Kazuhiko et al by a bump bonding process using ultrasonic waves, in light of the teachings of Matsushita, in order to manufacture electronic components using conventional bonding apparatus known in the art to firmly bond the component to the substrate.

Prior Art References

The prior art references listed on the enclosed PTO-892, but not used in a rejection of the claims, are cited for their teachings of manufacturing electronic parts.

Response to Arguments

Applicant's arguments with respect to claims 5-16 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments with respect to Illiou et al have been found persuasive Ablefilm ECF 550 is not an elastic material.

With respect to claim 5, Tatsufumi et al disclose this invention. Note: this claim does not require subsequently mounting an electronic part on the part of component held by the elastic material as required by claims 6 and 7.

With respect to claims 7-16, all that is required is an holding a substrate by an adhesive elastic material and mounting a component thereto. There is no limitation requiring the elastic material to be conductive as required by claim 6. Thus, claim 7 is anticipated by Kazuhiko et al.

With regards to claim 6, the elastic material (of claim 7) must be also conductive. Oehmke discloses an adhesive conductive elastic material used for grounding, precisely the same reason Applicant does.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Compton whose telephone number is (703) 305-0240. The examiner can normally be reached on M-F, 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory M. Vidovich can be reached on (703) 308-1513. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

EC

ebc
April 11, 2003

GREGORY VIDOVICH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700